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ABSTRACT

Student course evaluations of classes within the College of Education at East Tennessee State University were examined to identify relationships and differences in perceived levels of instructional quality based on faculty characteristics. It was expected that this would identify characteristics most strongly associated with high ratings of instructional performance as measured along the dimensions of attitude, methods, content, interest, and instructor characteristics, five subscales of the college's Student Assessment of Instruction (SAI). These data allow comparisons with other institutions of higher learning. Both undergraduate and graduate students in the College of Education were given the SAI instrument for course evaluation. Data for 1,736 undergraduates and 1,025 graduate students for 1992 through 1997 were used. Analysis of variance and t-tests were used to identify differences on the SAI subscales based on instructor rank, department, year of administration, and semester. Analysis of the data revealed differences on the total rating scale and on each subscale. Post hoc multiple comparisons tests indicated that those at the rank of instructor received higher ratings than full professors. Adjunct faculty ratings were similar to those of full professors. The differences in ratings between faculty members at different ranks varied considerably, however, between departments. There were significant overall differences in ratings between the different academic departments, although some of these differences appeared to be related to whether the courses being rated were undergraduate or graduate level. No significant differences were found between ratings during the fall and spring semesters, between male and female faculty, or across the 7 years of administration. Differences in ratings may be due to factors other than instructional delivery, a finding that may call for further exploration. An appendix contains data tables. (Contains 13 tables and 12 references.) (SLD)

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DIFFERENCES IN STUDENT RATINGS OF INSTRUCTIONAL EFFECTIVENESS BASED ON THE DEMOGRAPHIC AND ACADEMIC CHARACTERISTICS OF INSTRUCTORS

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ABSTRACT

In recent years there has been a growing concern with the quality of instruction in higher education and how the instructional process might be improved while institutions are experiencing many fiscal constraints. One particular concern has been the rising number of adjunct faculty teaching courses at universities and the potential impacts on instructional programs. The purpose of this study was to examine student course evaluations of classes within the College of Education at East Tennessee State University (ETSU) and identify relationships and differences in the perceived levels of instructional quality based on faculty characteristics. This provides for the identification of characteristics most strongly associated with high ratings of instructional performance, as measured along the dimensions of attitude, methods, content, interest, and instructor characteristics. These data allow comparisons with other institutions of higher learning. Both undergraduate and graduate students within the College of Education were given the Student Assessment of Instruction (SAI) instrument for course evaluation. Data for the years 1992 through 1999 were used in this analysis. The five SAI subscales (attitude, methods, content, interest, and instructor) comprise the total score on the instrument. Analysis of variance and t-tests were used to identify differences on the SAI subscales based on instructor rank, department, year of administration, and semester. Analysis of the data revealed differences on the total rating scale ($F=5.601$, $p < .05$) and on each subscale. Scheffe's Post Hoc Multiple Comparisons Tests indicated that those at the rank of instructor received higher ratings than full professors. Adjunct faculty ratings were similar to those of full professors. The differences in the ratings between faculty members at different ranks varied considerably, however, between departments. There were significant overall differences in ratings between the different academic departments, although some of these differences appeared to be related to whether the courses being rated were undergraduate or graduate level. No significant differences were found between ratings during the fall and spring semesters, between male and female faculty, or across the seven years of administration. Differences in ratings may be due to factors other than instructional delivery, which may call for further exploration.

INTRODUCTION

The improvement of instructional delivery has been of paramount concern in higher education during recent years. One particular concern has been the rising number of adjunct faculty teaching courses at universities and the potential impacts on instructional programs. If a provider has devoted resources to a particular educational activity, it wants to make sure that the information and skills needed are delivered. This is helpful both for future funding and further provision of educational services and for current satisfaction levels. From the consumer's standpoint, it is important to actually receive the information or skills that the educational activity has been promoted to provide. For practitioners in the field of adult or continuing education, the provision of information and skills is important for the involved learners' career goals, personal growth, and technological literacy. This is nowhere more pertinent than on the college campus, particularly with graduate students, who are usually adult learners. Most colleges and universities have developed some sort of assessment to measure the effectiveness of methods of instruction, course content, particular faculty members, and curriculum.

At East Tennessee State University (ETSU), the Student Assessment of Instruction (SAI) course evaluation form, developed by Lawrence Aleamoni, has been used since the fall of 1992. At that time, the Faculty Senate Subcommittee on SAI recommended this form to the Faculty Senate. The use of the SAI was subsequently endorsed by the ETSU Faculty Senate and approved for use by the Vice-President for Academic Affairs. Another form developed internally had been used previously. East Tennessee State University is a regional state-supported university located in Johnson City, TN. The student enrollment is approximately 10,000. The data analyzed in this study were drawn from the College of Education, which includes four academic departments and offers bachelor's, masters, and doctoral degrees. The four departments are 1) Curriculum and Instruction (CUAI), 2) Educational Leadership & Policy Analysis (ELPA), 3) Human Development and Learning (HDAL), and 4) Physical Education, Exercise, and Sports Science (PEXS). Each of the departments offers both bachelor's and master's degree. In addition, ELPA offers the Educational Specialist and Doctor of Education degrees. The issues faced at this institution are similar to those at other institutions of similar size and mission.

The purpose of this data analysis project was to investigate differences in student ratings of instructional effectiveness based on the demographic and academic characteristics of instructors in the College of Education at this state-supported university. It was anticipated that the results of this study would shed light on those factors that

are most closely related to instructional effectiveness, as measured on the SAI, and point to areas in which the institution might improve current practice.

Review of Related Literature

The validity of student evaluations of teaching (SETs) has long been of concern to researchers. Including a peak of studying validity of student ratings in the years of 1976-80, researchers have questioned bias in SETs through the years (Greenwald, 1997). More recent literature suggests, however, that the primary questions having to do with ratings validity in the 1970s were largely answered and effectively put to rest by later studies. Grades and ratings were found to be correlated but not necessarily in such a way as to create a contaminated interpretation. Current research still addresses concerns having to do with conceptual structure, convergent validity, discriminant validity, and consequential validity (Greenwald, 1997).

The complexity of the instructional process has also been considered in looking at SETs. Marsh and Roche (1997) critiqued the tendency to "puree" the various distinct components of students' ratings into one mixture, rather than to treat them as the "apples and oranges" that make up effective teaching. Questions of validity and usefulness of SETs have to take into account the multidimensionality of teaching.

d'Apollonia and Abrami (1997) found that although effective teaching may be multidimensional, student ratings of instruction measure general instructional skill. This general skill can be broken down into three subskills: delivering instruction, facilitating interactions, and evaluating student learning. Student ratings are moderately valid, but administrative, course, and instructor characteristics can influence them. However, d'Apollonia and Abrami cautioned against rigidly controlling for biasing variables and remarked, "We recommend that student ratings not be over-interpreted" (p. 1205).

Proper measurement must be considered in order to accurately interpret overall instructor ratings. Specifically, questions have been raised about whether individual level data or class aggregate statistics should be used in assessing instruction. Cranton and Smith (1990) empirically demonstrated that a clearly different structure of student ratings of instruction is produced by class means when compared with individual ratings and deviations from class means. A small but significant relationship was found between course characteristics and perceptions of instruction, varying with the unit of analysis used. This research supported the trend to focus in on class means as an appropriate unit of analysis. The proper use of student ratings has also been debated. Seldin (1993) cautioned

that student ratings should never be the only basis for evaluating teaching effectiveness. Small differences between faculty members' scores should not be misinterpreted.

The increasing use of technology in "classroom" instruction poses new questions in evaluating teaching effectiveness. For example, Spooner et al. (1999) found that student ratings in two courses offered both on campus and off campus using different methods of instruction (including electronic media) showed no significant difference. Course, instructor, teaching, and communication ratings were all similar across courses and settings. More research is called for on this issue.

The changing profile of faculty in academia leads toward speculation on the impact of faculty characteristics on instructional effectiveness. Specifically, the increasing use of part-time faculty in higher education has been a trend in recent years. Research completed by Burgess and Samuels (1999) in a large urban multi-campus community college district showed that students who had been taught by part-time (PT) faculty and then full-time (FT) faculty in sequential courses were less likely to complete or get a grade of "C" or better than students in other instructor status combinations (i.e., PT-PT, FT-FT, or FT-PT). These data seem to indicate that part-time faculty under-prepare their students for following courses taught by full-time instructors. Issues having to do with pay, job security, benefits, and facilities may have influenced the findings of this study. The 1993 National Survey of Postsecondary Faculty found that 47.8 percent of part-time faculty took their jobs because full-time work was not available. The reluctant part-timers showed greater proportions of women and part-timers under 35 than did the willing part-timer group (Palmer, 1999).

How does this translate into four-year public institutions? A 1994 report showed that four-year public colleges and universities are less likely than two-year institutions to use part-time instructors. However, there was still a substantial proportion of part-time faculty in universities. If Teaching Assistants (TAs) and Research Assistants (RAs) were included in the overall part-time numbers, around 47.5% of faculty in 4-year public institutions were part-time. If TAs and RAs were excluded, the percent was 23.6% (Zimbler, 1994).

The question of gender differences in instructional effectiveness has also been raised. The number of women faculty teaching on a part-time basis nearly tripled from 1976 to 1995. However, the number of newly hired full-time women increased by 55% over the 20 years. The great increase in the number of female faculty and the moderate increase in male faculty caused a change in the proportions of men and women faculty members. Female

faculty members increased from 27 to 39 percent, whereas women full-time faculty only increased from 17 to 20%. About 48% of women faculty worked part-time in 1995, compared to 36% of men. Other research has shown that the increasing number of women in academia is slowly eroding the dominance of white males in faculty positions (Clery, 1998). It is with this eye on the changing demographics of faculty in higher education and the issues associated with student ratings of instruction that the research presented in this paper was undertaken.

Research Questions

In an effort to examine differences in the ratings of instructional effectiveness based on the demographic and academic characteristics of instructors, six primary research questions were addressed: 1) What is the profile of the faculty in the College of Education at ETSU, and how has it changed between 1992 and 1999 ? 2) Are there differences in student ratings of instruction between faculty members of different rank? 3) Are there significant differences in the ratings of instruction completed in the Fall and Spring Semesters? 4) Are there differences in student ratings of male and female faculty members? 5) Are there differences in the ratings of instruction among the different departments? 6) Are there differences in student ratings of instruction across the different years of administration?

METHODS

Source of the Data and Methods of Data Collection

The data were obtained from the Office of Institutional Effectiveness and Planning at East Tennessee State University. The data are from information obtained on course evaluations at the end of each semester. Students fill out forms called Student Assessments of Instruction (SAI), which are then be machine scored. A Course Identification Form is completed by the assessment proctor. This form provides descriptive information about the course. Client Support Services in the Office of Information Technology scans the forms and builds a data file. A SAS program was then run to compile the data with which this project was begun. This file was then imported into the SPSS program for analysis. The data file contained information from Fall 1992 thru Spring 1999. During each Fall and Spring Semester full-time faculty members in the College of Education must be evaluated in a minimum of two classes. Adjunct/part-time faculty are usually evaluated in every class.

The answers to the questions on the evaluation are coded as follows: "Agree Strongly"=4, "Agree"=3, "Disagree"=2, and "Disagree Strongly"=1, except where the questions are worded negatively. High numbers are associated with positive responses. Answers are recoded on negatively worded questions, so that high values are associated with positive responses.

There are five subscales used in the analysis of the data, made up of various combinations of the questions on the SAI. The subscales and total scale are computed as follows:

Attitude: Q1 + Q6 + Q15 + Q21
Methods: Q2 + Q7 + Q12 + Q18
Content: Q4 + Q8 + Q13 + Q16
Interest: Q5 + Q10 + Q17 + Q19
Instructor: Q3 + Q9 + Q11 + Q14 + Q20
Total: Attitude + Methods + Content + Interest + Instructor.

RESULTS

The results are organized around the six major research questions. Each of the questions is examined sequentially. Since the tables were quite large they have all been placed in Appendix A.

Research Question #1: What is the profile of the faculty in the College of Education at ETSU, and how has it changed between 1992 and 1999 ?

A descriptive profile was obtained of the faculty in the College of Education. The characteristics of the group are shown in Table 1. As noted in Table 1, there is a fairly even distribution of male and female faculty members. However, the percent of female faculty member ratings has increased from 1992 (46.3%) to 1999 (53.2%). In fact, the percentage of male and female faculty member ratings "switched" over the seven year period, with females being in the "majority" in 1999.

The largest numbers of faculty are in the "Adjunct/Part-Time" category, with the other larger numbers being in the "Professor" and "Assistant Professor" categories. The number of faculty members was smaller in 1992 and 1999 since data were available for only one semester in each of those years.

Consistent with the literature, there was a substantial change in the use of adjunct faculty over the seven-year time span. The number of adjunct faculty ratings increased from 17.7% of all ratings in 1992 to 39.9% in 1999. During this period there was a concurrent decrease in the number of ratings of full professors from 24.5% to 17.6%. A smaller number of faculty members are represented in the Educational Leadership and Policy Analysis (ELPA)

department than in the other three academic departments in the College of Education. The ELPA department offers only graduate degrees, whereas the other departments also provide undergraduate courses.

Research Question #2: Are there differences in student ratings of instruction between faculty members of different rank?

An Analysis of Variance was completed to determine if there were significant differences in the student ratings of instruction for all of the subscale means and the total mean, by rank. As shown in Table 2, all of the scales showed a significant difference between the ranks of faculty, for both the total sample and the departmental subgroups. A series of Scheffe's Post Hoc Multiple Comparisons Tests gave more information about the exact nature of these differences. Tables 3 through 8 show the details of which ratings were significantly higher or lower for particular ranks, for both the total sample and the departmental subgroups.

In terms of the total sample, instructors had significantly higher ratings than full professors on the methods, content, and interest subscales, but no significant differences were found between these two groups on the attitude subscale and the total scale. Professors did score higher than instructors on the instructor subscale. Assistant professors had significantly lower ratings than instructors on the total scale and on all the subscales except the instructor subscale. Adjunct/part-time instructors scored significantly higher than assistant professors on the methods, content, and interest subscales and the total scale. Associate professors scored lower than instructors on the methods, content, and interest subscales. When considering the total sample, no significant differences were found between the professor and the adjunct/part-time ratings.

The departmental comparisons, however, indicated some very different patterns. For example, in CUAI, senior faculty appeared to score higher than junior faculty. Professors scored higher than assistant professors on all five subscales and the total scale. This same pattern was evident in ELPA, where professors were rated higher than associate professors on the attitude and interest subscales and the total scale. ELPA professors were rated higher than adjunct faculty on all five subscales and the total scale. A very different pattern can be seen in PEXS, where professors are rated lower than all the other ranks on the attitude and content dimensions, and lower than all but associate professors on the remaining subscales. These differences might be due to the type of classes that are offered in the different departments. For example, ELPA only offers graduate programs and has a very different clientele than PEXS, where many students from across campus enroll in 1000 and 2000 level activity courses.

In an effort to determine if such departmental differences might be due to the nature of the courses being taught, an additional analysis was run to see if there were differences in the mean ratings of graduate and undergraduate courses. These results are shown in Table 9. As shown in Table 9, when the total sample was examined, graduate and undergraduate differences were evident on all the subscales except the method subscale. There were also differences on the total scale. In all cases, the ratings in graduate courses were higher. Within CUAI there were no significant differences on any of the subscales except the instructor subscale, where instructors in graduate courses were rated higher. In contrast, in HDAL all of the graduate-to-undergraduate comparisons were significant, with ratings being higher in the graduate courses. Finally, in PEXS, there were significant differences on all of the subscales and on the total scale. However, in each case the undergraduate ratings were higher. Clearly, differences between graduate and undergraduate ratings vary greatly by department.

Research Question #3: Are there significant differences in the ratings of instruction completed in Fall and Spring Semesters ?

A series of t-tests for Independent Means was performed to determine if there were significant differences in the total and subscale means between the fall and spring semesters. As shown in Table 10, no significant differences were found. The scheduling of academic coursework does not appear to influence the ratings of instruction.

Research Question #4: Are there differences in student ratings of male and female faculty members ?

A series of t-tests for Independent Means were also completed to determine if there were significant differences in the ratings of faculty members according to gender. The data are presented in Table 11. There were no significant differences found in any of the subscales or the total means of the student ratings, according to faculty gender.

Research Question #5: Are there differences in the ratings of instruction among the different departments?

An Analysis of Variance was run to test the significance of differences among the ratings received by courses in different departments within the College of Education. The four departments are Educational Leadership and Policy Analysis (ELPA), Curriculum and Instruction (CUAI), Human Development and Learning (HDAL), and Physical Education, Exercise, and Sports Science (PEXS). As shown in Table 12, significant differences were found on all of the subscales and total means. Scheffe's Post Hoc Multiple Comparisons test placed the departments

in different homogeneous subsets. The ELPA department was in the highest-rated subset on all of the subscales and the total means. The CUAI department overlapped the ELPA department in the higher subset on the attitude and interest subscales. The PEXS department overlapped with the ELPA subset on the method subscale. On the interest and instructor subscales, three homogeneous subsets were created. The PEXS and the CUAI departments were in the middle group on the interest subscale, whereas the HDAL and the CUAI departments were in the middle group on the instructor subscale.

Research Question #6: Are there differences in student ratings of instruction across the different years of administration?

An Analysis of Variance was used to assess if there were differences in the mean ratings over the seven year period from 1992 to 1999. The results are provided in Table 13. The results of this analysis support the stability of the SAI scores over time, as there were no significant differences in means over the seven years on any of the subscales or the total scale.

DISCUSSION

The faculty profile in the College of Education at ETSU seems to have remained fairly consistent in overall numbers from 1992 to 1999. However, the percentages in the different departments do seem to have shifted, at least on the basis of the number of reported ratings. The CUAI and the PEXS departments have lessened their proportions of total faculty ratings in the college, whereas the HDAL department increased its percentage. The ELPA department is still at about the same level.

The percentage of ratings for males and females are similar, although ETSU has had an increase in the number of female faculty member ratings from 46.3% in 1992 to 53.2% in 1999. This trend is similar to the changing demographics noted nationally. ETSU has followed the trend of using an increasing percentage of part-time faculty, going from 17.7% of the total number of ratings in 1992 to 39.9% in 1999. If TAs are included, the percent has changed from 24.5% in 1992 to 48.3% in 1999.

The results indicate that there are statistically significant differences in the ratings of faculty members of different ranks. As a whole, the instructor rank seemed to receive some of the highest ratings on the subscales, although most of the instructors were found in PEXS. The assistant professor rank had some of the lower ratings on the total scale, and adjunct/part-time faculty and associate professors were perceived similarly to full professors. At

least in our sample, part-time faculty were not perceived as offering less instructional quality. In fact, adjunct faculty were typically rated higher than associate or assistant professors, except in ELPA. The question from this study may be the reasons behind the assistant professors' receiving lower ratings than some of the other ranks. Other factors may be affecting the quality of instruction received from this rank. This is material for further study.

The lack of significant differences between the two main semesters and between genders suggests that school administrators should have some flexibility in scheduling courses. The time that a course is offered and the gender of the instructors should not affect the perceived quality of the instruction. The lack of differences in ratings across the years suggests a consistent level of instructional delivery over time.

The differences in ratings between departments may be influenced by the relative number of graduate and undergraduate courses offered. Students in the ELPA department may be more sensitive to evaluation issues, given their area of emphasis, and rate courses more highly. In any case, the difference among departments represents a potential target for further study.

SUMMARY AND CONCLUSIONS

The data analysis produced some very interesting results. The trends in faculty demographics at ETSU seem to be similar to those at other institutions. It appears from the proportions of ratings that there has been an increase in the proportion of female faculty members. There also appears to be a much higher use of part-time faculty than in past years. The term in which a class was taken did not appear to affect the ratings of faculty. Neither the gender of the instructor nor the year of the evaluation demonstrated significant differences in the ratings.

The subscale differences between instructors of different ranks were also interesting. Professors and instructors/lecturers tended to have higher scores than associate professors. This raises questions about the instructional activities of these two groups. Why do professors and instructors have similar high interest subscales? It could be that instructors have less committee and administrative work (than associate or assistant professors) and are therefore more able to concentrate on teaching, whereas professors have more experience than the other groups. Additional research would have to be done to explore the issue more thoroughly. In the literature of higher education it is sometimes implied that the quality of instruction suffers when large numbers of adjunct faculty are used. This was certainly not evident in these results. In our study, adjunct/part-time instructors did not receive lower rating scores than full-time faculty, except in ELPA. In many cases, adjunct faculty members were rated

higher than full-time faculty. Of the 38 instances where there were significant differences in the ratings of adjunct faculty and other groups (across the 6 scales), in 30 of those instances the adjunct faculty members were rated higher.

This data set is a most illuminating one with which to work and could offer material for further study. The SAI instrument itself could be analyzed in more detail for validity, bias, and reliability. It should be noted that it uses the class mean as the unit of analysis as recommended by Cranton and Smith (1990). In general, students seemed fairly satisfied with courses taken in the College of Education. It could be that the small significant differences noted should not be "over-interpreted," to use d'Apollonia and Abrami's word of caution (1997).

As shown in this data analysis, the instructor of a course does matter, as does the content of the course. However, what the student brings to the course is also important. Finding a good balance between what the student brings to a course, what an instructor brings to a course, and what the content itself offers appears to be the challenge.

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Appendix A

TABLES 1 - 13

TABLE 1
DESCRIPTIVE PROFILE OF FACULTY MEMBERS IN THE COLLEGE OF EDUCATION
BETWEEN 1992 AND 1999

Characteristic	1992		1993		1994		1995		1996		1997		1998		1999	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Gender:																
Male	102	53.7	175	52.2	209	52.8	205	52.8	189	47.0	187	46.8	204	44.8	87	46.8
Female	88	46.3	160	47.8	179	46.1	183	47.2	213	53.0	213	53.3	251	55.2	99	53.2
Total	190	100	335	100	388	100	388	100	402	100	400	100	455	100	186	100
Department:																
CUAI	51	26.6	99	29.6	104	26.5	86	21.9	49	12.2	72	17.9	83	18.0	33	17.6
ELPA	22	11.5	40	11.9	42	10.7	40	10.2	37	9.2	40	10.0	42	9.1	21	11.2
HDAL	54	28.1	90	26.9	120	30.6	132	33.7	186	46.2	165	41.0	195	42.2	83	44.1
PEXS	65	33.9	106	31.6	126	32.1	134	34.2	131	32.5	125	40.0	142	30.7	51	27.1
Total	192	100	335	100	392	100	392	100	403	100	402	100	462	100	188	100
Rank:																
Professor	47	24.5	86	25.7	92	23.5	70	17.9	71	17.6	78	19.4	92	19.9	33	17.6
Assoc. Prof.	21	10.9	37	11.0	43	11.0	46	11.7	45	11.2	59	14.7	64	13.9	30	16.0
Assist. Prof.	37	19.3	66	19.7	92	23.5	108	27.6	112	27.8	86	21.4	86	18.6	31	16.5
Instructor	40	20.8	37	11.0	31	7.9	32	8.2	33	8.2	19	4.7	24	5.2	3	1.6
TA	13	6.8	6	1.8	26	6.6	14	3.6	26	6.5	21	5.2	30	6.5	16	8.5
Adjunct/PT	34	17.7	103	30.7	108	27.6	122	31.1	116	28.8	139	34.6	166	35.9	75	39.9
Total	192	100	335	100	392	100	392	100	403	100	402	100	462	100	188	100

TABLE 2
COMPARISON OF THE TOTAL AND SUBSCALE MEANS OF FACULTY MEMBERS OF DIFFERENT RANKS

	Full			Associate			Assistant			Instructor			TA			Adjunct			
	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	F
T: Attitude	569	**13.57**	1.78	345	**13.59**	1.44	618	**13.35**	1.62	219	**13.89**	1.02	152	**13.40**	1.23	863	**13.54**	1.67	4.252*
C: Attitude	215	**13.84**	1.68	63	**13.90**	1.37	134	**13.05**	1.71	9	**13.82**	1.58	1	**12.84**		155	**13.76**	1.77	5.615*
E: Attitude	90	**14.38**	1.23	85	**13.65**	1.59	27	**13.80**	1.45	1	**15.60**					81	**13.51**	1.62	5.803*
H: Attitude	219	**13.25**	1.90	105	**13.81**	1.58	289	**13.58**	1.70	25	**14.15**	1.22	7	**13.43**	.93	380	**13.27**	1.79	21.155*
P: Attitude	45	**12.24**	1.54	92	**13.09**	.98	168	**13.12**	1.32	184	**13.84**	.96	144	**13.40**	1.24	247	**13.82**	1.34	3.283*
T: Methods	568	**12.61**	2.03	345	**12.60**	1.61	617	**12.30**	1.91	219	**13.16**	1.28	152	**12.66**	1.46	863	**12.63**	1.93	7.405*
C: Methods	214	**12.92**	1.91	63	**12.93**	1.56	133	**11.74**	2.17	9	**12.43**	2.16	1	**12.58**		155	**12.71**	2.00	8.342*
E: Methods	90	**13.44**	1.43	85	**12.78**	1.67	27	**12.93**	1.74	1	**15.00**					81	**12.67**	1.83	3.734*
H: Methods	219	**12.20**	2.22	105	**12.84**	1.83	289	**12.54**	1.96	25	**13.32**	1.54	7	**13.13**	1.10	380	**12.27**	2.07	24.028*
P: Methods	45	**11.44**	1.73	92	**11.93**	1.06	168	**12.24**	1.51	184	**13.17**	1.18	144	**12.64**	1.48	247	**13.11**	1.54	3.128*
T: Content	569	**12.74**	1.67	345	**12.80**	1.34	618	**12.54**	1.44	219	**13.24**	1.03	152	**12.85**	1.14	863	**12.89**	1.50	8.901*
C: Content	215	**13.02**	1.60	63	**13.14**	1.40	134	**12.08**	1.53	9	**12.54**	2.16	1	**12.31**		155	**13.01**	1.55	9.647*
E: Content	90	**13.41**	1.26	85	**12.96**	1.40	27	**13.29**	1.48	1	**14.60**					81	**12.75**	1.57	3.522*
H: Content	219	**12.49**	1.71	105	**13.01**	1.47	289	**12.76**	1.46	25	**13.31**	1.37	7	**13.21**	.79	380	**12.66**	1.54	36.950*
P: Content	45	**11.33**	1.44	92	**12.17**	.77	168	**12.39**	1.20	184	**13.25**	.89	144	**12.83**	1.15	247	**13.21**	1.31	2.738*
T: Interest	568	**12.46**	2.00	345	**12.31**	1.65	618	**12.11**	1.70	219	**12.96**	1.19	152	**12.34**	1.36	863	**12.42**	1.87	8.138*
C: Interest	214	**12.91**	1.93	63	**12.51**	1.58	134	**11.74**	1.67	9	**12.94**	1.76	1	**12.27**		155	**12.66**	1.96	8.774*
E: Interest	90	**13.42**	1.35	85	**12.60**	1.62	27	**12.53**	1.68	1	**15.00**					81	**12.45**	1.66	6.833*
H: Interest	219	**11.91**	2.12	105	**12.58**	1.80	289	**12.35**	1.84	25	**12.85**	1.40	7	**11.61**	1.86	380	**12.02**	2.01	3.402*
P: Interest	45	**11.14**	1.30	92	**11.58**	1.30	168	**11.93**	1.36	184	**12.96**	1.13	144	**12.37**	1.33	247	**12.88**	1.49	31.931*
T: Instructor	568	**17.42**	1.69	345	**17.40**	1.34	617	**16.94**	1.82	219	**16.99**	1.30	152	**16.38**	1.52	863	**17.17**	1.74	13.492*
C: Instructor	214	**17.69**	1.54	63	**17.44**	1.43	133	**16.61**	1.85	9	**17.49**	1.41	1	**16.70**		155	**17.45**	1.83	8.898*
E: Instructor	90	**18.35**	1.20	85	**17.89**	1.29	27	**17.80**	1.74	1	**19.60**					81	**17.62**	1.48	4.320*
H: Instructor	219	**17.07**	1.75	105	**17.61**	1.34	289	**17.30**	1.86	25	**17.79**	1.45	7	**17.40**	1.10	380	**17.04**	1.89	2.667*
P: Instructor	45	**15.93**	1.50	92	**16.68**	1.00	168	**16.45**	1.53	184	**16.84**	1.22	144	**16.33**	1.53	247	**17.04**	1.47	8.939*
T: Total	568	**68.83**	8.92	345	**68.77**	7.10	615	**67.36**	8.04	219	**70.35**	5.49	152	**67.74**	6.39	862	**68.74**	8.34	5.601*
C: Total	214	**70.41**	8.37	63	**70.05**	6.99	132	**65.45**	8.51	9	**69.98**	7.97	1	**66.11**		155	**69.78**	8.67	8.127*
E: Total	90	**73.08**	6.26	85	**69.99**	7.30	27	**70.70**	7.19	1	**79.80**					81	**69.10**	7.61	5.058*
H: Total	219	**66.95**	9.43	105	**70.00**	7.83	288	**68.58**	8.42	25	**71.50**	6.72	7	**68.57**	5.58	379	**67.34**	9.00	3.194*
P: Total	45	**61.99**	7.18	92	**65.37**	4.70	168	**66.23**	6.49	184	**70.16**	5.14	144	**67.71**	6.46	247	**70.10**	6.90	24.511*

Key: T= Total Sample, C= Curriculum & Instruction, E= Educational Leadership, H= Human Development and Learning, P= Physical Education, Exercise and Sports Science.

* $p < .05$

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TABLE 3
COMPARISON OF SIGNIFICANCE OF RATINGS ON THE **ATTITUDE** SUBSCALE

	Professor	Associate Prof.	Assistant Prof.	Instructor	TA	Adjunct/Part-Time
Professor	T: C: E: H: P:	T: C: E: **> Associate** H: P: < Associate	T: C: **> Assistant** E: H: P: < Assistant	T: C: E: H: P: < Instructor	T: C: E: H: P: < TA	T: C: E: **> Adjunct** H: P: < Adjunct
Associate Prof.	T: C: E: < Professor H: P: **> Professor**	T: C: E: H: P:	T: C: **> Assistant** E: H: P:	T: C: E: H: P: < Instructor	T: C: E: H: P:	T: C: E: H: P: < Adjunct
Assistant Prof.	T: C: < Professor E: H: P: **> Professor**	T: C: < Associate E: H: P:	T: C: E: H: P:	T: < Instructor C: E: H: P: < Instructor	T: C: E: H: P:	T: C: < Adjunct E: H: P: < Adjunct
Instructor	T: C: E: H: P: **> Professor**	T: C: E: H: P: **> Associate**	T: **> Assistant** C: E: H: P: **> Assistant**	T: C: E: H: P:	T: C: E: H: P:	T: C: E: H: P:
TA	T: C: E: H: P: **> Professor**	T: C: E: H: P:	T: C: E: H: P:	T: C: E: H: P:	T: C: E: H: P:	T: C: E: H: P:
Adjunct/Part-Time	T: C: E: < Professor H: P: **> Professor**	T: C: E: H: P: **> Associate**	T: C: **> Assistant** E: H: P: **> Assistant**	T: C: E: H: P:	T: C: E: H: P:	T: C: E: H: P:

Key: T= Total Sample, C= Curriculum & Instruction, E= Educational Leadership, H= Human Development and Learning, P= Physical Education, Exercise and Sports Science.

TABLE 4
COMPARISON OF SIGNIFICANCE OF RATINGS ON THE **METHOD** SUBSCALE

	Professor	Associate Prof.	Assistant Prof.	Instructor	TA	Adjunct/Part-Time
Professor	T: C: E: H: P:	T: C: E: H: P:	T: C: **> Assistant** E: H: P: < Assistant	T: < Instructor C: E: H: P: < Instructor	T: C: E: H: P: < TA	T: C: E: **> Adjunct** H: P: < Adjunct
Associate Prof.	T: C: E: H: P:	T: C: E: H: P:	T: C: **> Assistant** E: H: P:	T: < Instructor C: E: H: P: < Instructor	T: C: E: H: P: < TA	T: C: E: H: P: < Adjunct
Assistant Prof.	T: C: < Professor E: H: P: **> Professor**	T: C: < Associate E: H: P:	T: C: E: H: P:	T: < Instructor C: E: H: P: < Instructor	T: C: E: H: P:	T: < Adjunct C: < Adjunct E: H: P: < Adjunct
Instructor	T: **> Professor** C: E: H: P: **> Professor**	T: **> Associate** C: E: H: P: **> Associate**	T: **> Assistant** C: E: H: P: **> Assistant**	T: C: E: H: P:	T: C: E: H: P:	T: C: E: H: P:
TA	T: C: E: H: P: **> Professor**	T: C: E: H: P: **> Associate**	T: C: E: H: P:	T: C: E: H: P:	T: C: E: H: P:	T: C: E: H: P:
Adjunct/Part-Time	T: C: E: < Professor H: P: **> Professor**	T: C: E: H: P: **> Associate**	T: **> Assistant** C: **> Assistant** E: H: P: **> Assistant**	T: **> Instructor** C: E: H: P:	T: C: E: H: P:	T: C: E: H: P:

Key: T= Total Sample, C= Curriculum & Instruction, E= Educational Leadership, H= Human Development and Learning, P= Physical Education, Exercise and Sports Science.

TABLE 5
COMPARISON OF SIGNIFICANCE OF RATINGS ON THE **CONTENT** SUBSCALE

	Professor	Associate Prof.	Assistant Prof.	Instructor	TA	Adjunct/Part-Time
Professor	T: C: E: H: P:	T: C: E: H: P: < Associate	T: C: > **Assistant** E: H: P: < Assistant	T: < Instructor C: E: H: P: < Instructor	T: C: E: H: P: < TA	T: C: E: > **Adjunct** H: P: < Adjunct
Associate Prof.	T: C: E: H: P: > **Professor**	T: C: E: H: P:	T: C: > **Assistant** E: H: P:	T: < Instructor C: E: H: P: < Instructor	T: C: E: H: P: < TA	T: C: E: H: P: < Adjunct
Assistant Prof.	T: C: < Professor E: H: P: > **Professor**	T: C: < Associate E: H: P:	T: C: E: H: P:	T: < Instructor C: E: H: P: < Instructor	T: C: E: H: P: < TA	T: < Adjunct C: < Adjunct E: H: P: < Adjunct
Instructor	T: > **Professor** C: E: H: P: > **Professor**	T: > **Associate** C: E: H: P: > **Associate**	T: > **Assistant** C: E: H: P: > **Assistant**	T: C: E: H: P:	T: C: E: H: P:	T: > **Adjunct** C: E: H: P:
TA	T: C: E: H: P: > **Professor**	T: C: E: H: P: > **Associate**	T: C: E: H: P: > **Assistant**	T: C: E: H: P:	T: C: E: H: P:	T: C: E: H: P:
Adjunct/Part-Time	T: C: E: < Professor H: P: > **Professor**	T: C: E: H: P: > **Associate**	T: > **Assistant** C: > **Assistant** E: H: P: > **Assistant**	T: < Instructor C: E: H: P:	T: C: E: H: P:	T: C: E: H: P:

Key: T= Total Sample, C= Curriculum & Instruction, E= Educational Leadership, H= Human Development and Learning, P= Physical Education, Exercise and Sports Science.

TABLE 6
COMPARISON OF SIGNIFICANCE OF RATINGS ON THE **INTEREST** SUBSCALE

	Professor	Associate Prof.	Assistant Prof.	Instructor	TA	Adjunct/Part-Time
Professor	T: C: E: H: P:	T: C: E: > **Associate** H: P:	T: > **Assistant** C: > **Assistant** E: H: P: < Assistant	T: < Instructor C: E: H: P: < Instructor	T: C: E: H: P: < TA	T: C: E: > **Adjunct** H: P: < Adjunct
Associate Prof.	T: C: E: < Professor H: P:	T: C: E: H: P:	T: C: E: H: P:	T: < Instructor C: E: H: P: < Instructor	T: C: E: H: P: < TA	T: C: E: H: P: < Adjunct
Assistant Prof.	T: < Professor C: < Professor E: H: P: > **Professor**	T: C: E: H: P:	T: C: E: H: P:	T: < Instructor C: E: H: P: < Instructor	T: C: E: H: P:	T: < Adjunct C: < Adjunct E: H: P: < Adjunct
Instructor	T: > **Professor** C: E: H: > **Professor** P:	T: > **Associate** C: E: H: P: > **Associate**	T: > **Assistant** C: E: H: P: > **Assistant**	T: C: E: H: P:	T: > **TA** C: E: H: P: > **TA**	T: > **Adjunct** C: E: H: P:
TA	T: C: E: H: P: > **Professor**	T: C: E: H: P: > **Associate**	T: C: E: H: P:	T: < Instructor C: E: H: P: < Instructor	T: C: E: H: P:	T: C: E: H: P: < Adjunct
Adjunct/Part-Time	T: C: E: < Professor H: P: > **Professor**	T: C: E: H: P: > **Associate**	T: > **Assistant** C: > **Assistant** E: H: P: > **Assistant**	T: < Instructor C: E: H: P:	T: C: E: H: P: > **TA**	T: C: E: H: P:

Key: T= Total Sample, C= Curriculum & Instruction, E= Educational Leadership, H= Human Development and Learning, P= Physical Education, Exercise and Sports Science.

TABLE 7
COMPARISON OF SIGNIFICANCE OF RATINGS ON THE **INSTRUCTOR** SUBSCALE

	Professor	Associate Prof.	Assistant Prof.	Instructor	TA	Adjunct/Part-Time
Professor	T: C: E: H: P:	T: C: E: H: P:	T: **> Assistant** C: **> Assistant** E: H: P:	T: **> Instructor** C: E: H: P: < Instructor	T: **> TA** C: E: H: P:	T: C: E: **> Adjunct** H: P:
Associate Prof.	T: C: E: H: P:	T: C: E: H: P:	T: **> Assistant** C: **> Assistant** E: H: P:	T: C: E: H: P:	T: **> TA** C: E: H: P:	T: C: E: H: P:
Assistant Prof.	T: < Professor C: < Professor E: H: P:	T: < Associate C: < Associate E: H: P:	T: C: E: H: P:	T: C: E: H: P:	T: **> TA** C: E: H: P:	T: C: < Adjunct E: H: P: < Adjunct
Instructor	T: < Professor C: E: H: P: **> Professor**	T: C: E: H: P:	T: C: E: H: P:	T: C: E: H: P:	T: **> TA** C: E: H: P:	T: C: E: H: P:
TA	T: < Professor C: E: H: P:	T: < Associate C: E: H: P:	T: < Assistant C: E: H: P:	T: < Instructor C: E: H: P:	T: C: E: H: P:	T: < Adjunct C: E: H: P: < Adjunct
Adjunct/Part-Time	T: C: E: < Professor H: P: **> Professor**	T: C: E: H: P:	T: C: **> Assistant** E: H: P: **> Assistant**	T: C: E: H: P:	T: **> TA** C: E: H: P: **> TA**	T: C: E: H: P:

Key: T= Total Sample, C= Curriculum & Instruction, E= Educational Leadership, H= Human Development and Learning, P= Physical Education, Exercise and Sports Science.

TABLE 8
COMPARISON OF SIGNIFICANCE OF RATINGS ON THE **TOTAL SCALE**

	Professor	Associate Prof.	Assistant Prof.	Instructor	TA	Adjunct/Part-Time
Professor	T: C: E: H: P:	T: C: E: **> Associate** H: P:	T: **> Assistant** C: **> Assistant** E: H: P: < Assistant	T: C: E: H: P: < Instructor	T: C: E: H: P: < TA	T: C: E: **> Adjunct** H: P: < Adjunct
Associate Prof.	T: C: E: < Professor H: P:	T: C: E: H: P:	T: C: **> Assistant** E: H: P:	T: C: E: H: P: < Instructor	T: C: E: H: P:	T: C: E: H: P: < Adjunct
Assistant Prof.	T: < Professor C: < Professor E: H: P: **> Professor**	T: C: < Associate E: H: P:	T: C: E: H: P:	T: < Instructor C: E: H: P: < Instructor	T: C: E: H: P:	T: < Adjunct C: < Adjunct E: H: P: < Adjunct
Instructor	T: C: E: H: P: **> Professor**	T: C: E: H: P: **> Associate**	T: **> Assistant** C: E: H: P: **> Assistant**	T: C: E: H: P:	T: **> TA** C: E: H: P: **> TA**	T: C: E: H: P:
TA	T: C: E: H: P: **> Professor**	T: C: E: H: P:	T: C: E: H: P:	T: < Instructor C: E: H: P: < Instructor	T: C: E: H: P:	T: C: E: H: P: < Adjunct
Adjunct/Part-Time	T: C: E: < Professor H: P: **> Professor**	T: C: E: H: P: **> Associate**	T: **> Assistant** C: **> Assistant** E: H: P: **> Assistant**	T: C: E: H: P:	T: C: E: H: P: **> TA**	T: C: E: H: P:

Key: T= Total Sample, C= Curriculum & Instruction, E= Educational Leadership, H= Human Development and Learning, P= Physical Education, Exercise, and Sports Science

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TABLE 9
COMPARISON OF THE TOTAL AND SUBSCALE MEANS OF GRADUATE AND UNDERGRADUATE COURSES

	Attitude				Methods				Content				Interest				Instructor				Total			
	N	M	SD	t	N	M	SD	t	N	M	SD	t	N	M	SD	t	N	M	SD	t	N	M	SD	t
TOTAL																								
Undergrad	1736	13.44	1.51	**3.95***	1736	12.55	1.81	1.44	1736	12.73	1.42	**2.82***	1736	12.28	1.71	**4.14***	1736	16.88	1.65	**10.80***	1736	69.97	7.77	**4.79***
Graduate	1030	13.68	1.72		1028	12.66	1.93		1030	12.90	1.52		1029	12.56	1.86		1028	17.58	1.63		1025	69.47	8.29	
CUAI																								
Undergrad	374	13.64	1.53	.01	374	12.60	1.89	.33	374	12.75	1.53	1.15	374	12.44	1.78	1.15	374	17.23	1.63	**2.28***	374	68.79	8.00	.98
Graduate	203	13.64	1.99		201	12.54	2.23		203	12.91	1.72		202	12.68	2.08		201	17.57	1.89		200	69.53	9.47	
HDAL																								
Undergrad	556	13.18	1.72	**5.02***	556	12.21	2.08	**3.56***	556	12.52	1.55	**4.32***	556	11.84	1.94	**5.73***	556	16.93	1.87	**5.24***	556	66.76	8.87	**4.91***
Graduate	469	13.73	1.77		469	12.67	1.98		469	12.93	1.52		469	12.54	1.92		469	17.52	1.65		467	69.45	8.52	
PEXS																								
Undergrad	805	13.52	1.30	**4.11***	805	12.76	1.51	**5.84***	805	12.88	1.25	**6.17***	805	12.50	1.44	**5.99***	805	16.68	1.47	.396	805	68.41	6.67	**4.91***
Graduate	75	12.88	1.06		75	11.71	1.19		75	11.96	.93		75	11.46	1.30		75	16.61	1.02		75	64.53	4.89	

*$p < 0.05$

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TABLE 10
COMPARISON OF THE TOTAL AND SUBSCALE MEANS OF SPRING AND FALL SEMESTERS

	Attitude				Methods				Content				Interest				Instructor				Total			
	N	M	SD	t	N	M	SD	t	N	M	SD	t	N	M	SD	t	N	M	SD	t	N	M	SD	t
Spring	1371	13.53	1.61	.067	1370	12.62	1.85	.820	1371	12.82	1.48	.782	1370	12.39	1.79	.224	1370	17.16	1.68	.538	1368	68.58	8.05	.354
Fall	1395	13.53	1.58		1394	12.56	1.86		1395	12.77	1.45		1395	12.38	1.76		1394	17.12	1.68		1393	68.47	7.95	

*p < 0.05

TABLE 11
COMPARISON OF THE TOTAL AND SUBSCALE MEANS OF MALE AND FEMALE FACULTY MEMBERS

	Attitude				Methods				Content				Interest				Instructor				Total			
	N	M	SD	t	N	M	SD	t	N	M	SD	t	N	M	SD	t	N	M	SD	t	N	M	SD	t
Male	1358	13.57	1.52	1.145	1358	12.63	1.77	1.017	1358	12.81	1.42	.493	1358	12.41	1.72	.730	1358	17.15	1.57	.012	1358	68.64	7.64	.665
Female	1386	13.50	1.67		1384	12.56	1.94		1386	12.78	1.51		1385	12.36	1.83		1384	17.15	1.78		1381	68.44	8.35	

*p < 0.05

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TABLE 12
COMPARISON OF THE TOTAL AND SUBSCALE MEANS OF DIFFERENT DEPARTMENTS WITHIN THE COLLEGE OF EDUCATION

	CUAI			ELPA			HDAL			PEXS			
	N	M	SD	N	M	SD	N	M	SD	N	M	SD	F
Attitude	577	13.64	1.70	284	13.86	1.52	1025	13.43	1.76	880	13.46	1.30	6.877*
Methods	575	12.58	2.01	284	12.98	1.68	1025	12.42	2.05	880	12.67	1.51	7.612*
Content	577	12.80	1.60	284	13.08	1.43	1025	12.71	1.55	880	12.80	1.26	4.943*
Interest	576	12.53	1.89	284	12.82	1.61	1025	12.16	1.96	880	12.41	1.45	12.478*
Instructor	575	17.35	1.73	284	17.96	1.39	1025	17.20	1.80	880	16.67	1.43	50.835*
Total	574	69.05	8.54	284	70.82	7.23	1023	67.99	8.81	880	68.08	6.63	11.163*

*$p < 0.05$

TABLE 13
COMPARISON OF THE TOTAL AND SUBSCALE MEANS ACROSS YEARS OF ADMINISTRATION

	1992			1993			1994			1995			1996			1997			1998			1999			
	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	F
Attitude	192	13.62	1.55	335	13.66	1.44	392	13.51	1.50	392	13.69	1.52	403	13.50	1.56	402	13.56	1.60	462	13.37	1.83	188	13.32	1.64	2.135*
Methods	192	12.52	1.90	335	12.62	1.69	391	12.63	1.80	391	12.80	1.76	403	12.55	1.79	402	12.68	1.80	462	12.43	2.10	188	12.40	1.94	1.669
Content	192	12.72	1.40	335	12.76	1.39	392	12.77	1.41	392	12.98	1.41	403	12.77	1.42	402	12.87	1.42	462	12.71	1.64	188	12.69	1.60	1.544
Interest	192	12.51	1.70	335	12.45	1.64	391	12.37	1.68	392	12.56	1.72	403	12.37	1.71	402	12.43	1.74	462	12.21	2.06	188	12.16	1.85	1.852
Instructor	192	17.08	1.64	335	17.22	1.53	391	17.15	1.62	391	17.29	1.54	403	17.11	1.57	402	17.16	1.73	462	16.99	1.98	188	17.11	1.68	1.141
Total	192	68.56	7.92	335	68.79	7.24	390	68.48	7.67	390	69.46	7.45	402	68.38	7.71	402	68.79	7.94	462	67.80	9.20	188	67.76	8.56	1.692

*$p < 0.05$